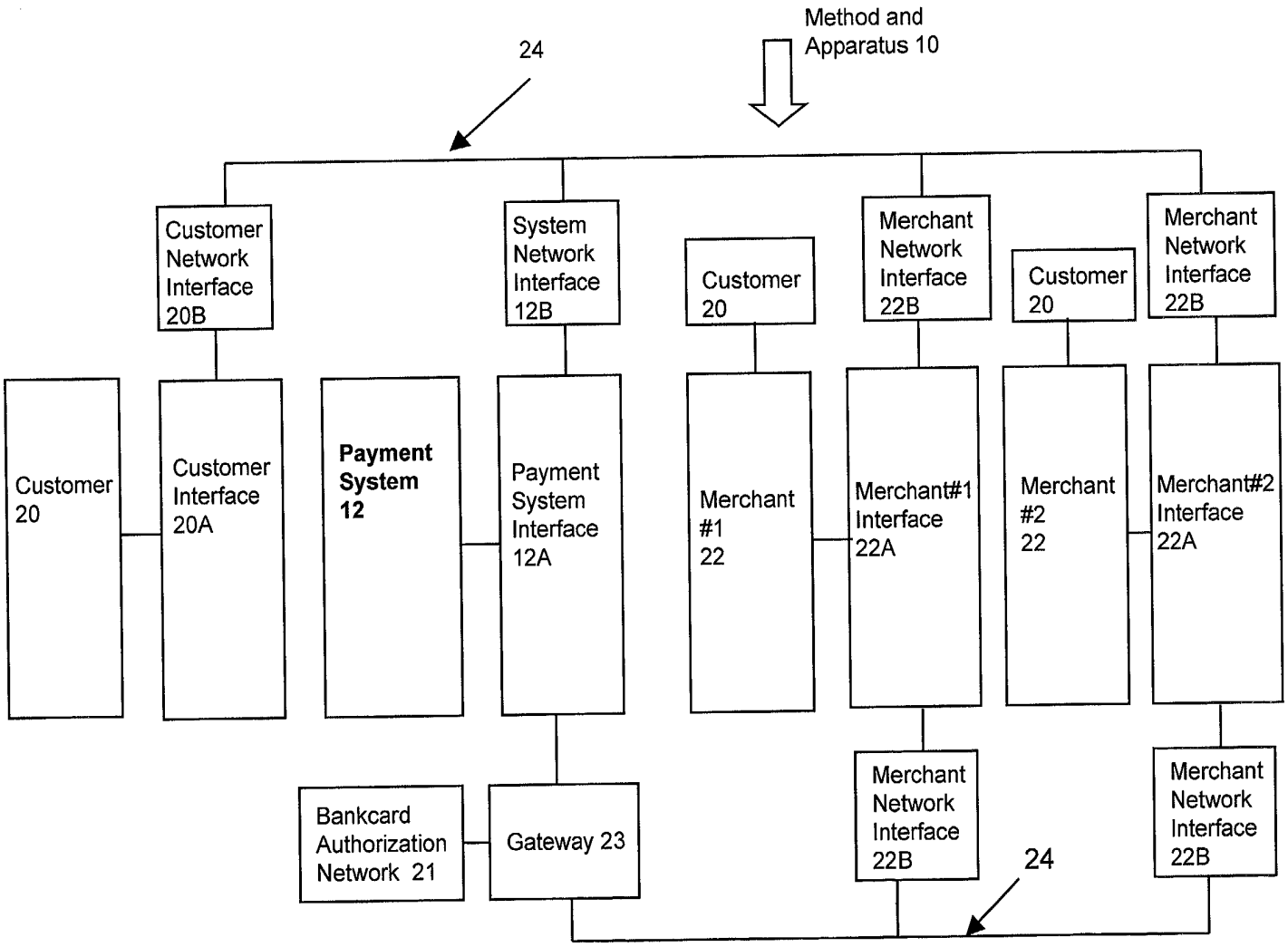
Method and
Apparatus 10
24
Customer
Network
Interface
20B
System
Network
Interface
12B
Customer
20
Merchant
Network
Interface
22B
Customer
20
Merchant
Network
Interface
22B
Customer
20
Customer
Interface
20A
Payment
System
12
Payment
System
Interface
12A
Merchant
#1
22
Merchant#1
Interface
22A
Merchant
#2
22
Merchant#2
Interface
22A
Bankcard
Authorization
Network 21
Gateway 23
Merchant
Network
Interface
22B
Merchant
Network
Interface
22B
24

FIGURE 1A

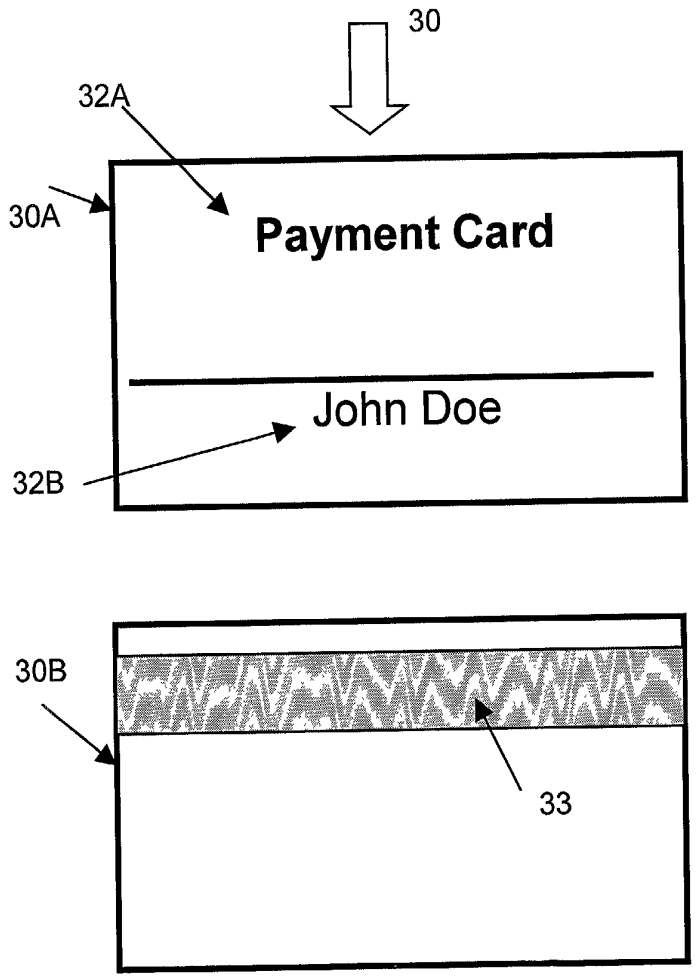

FIGURE 1B

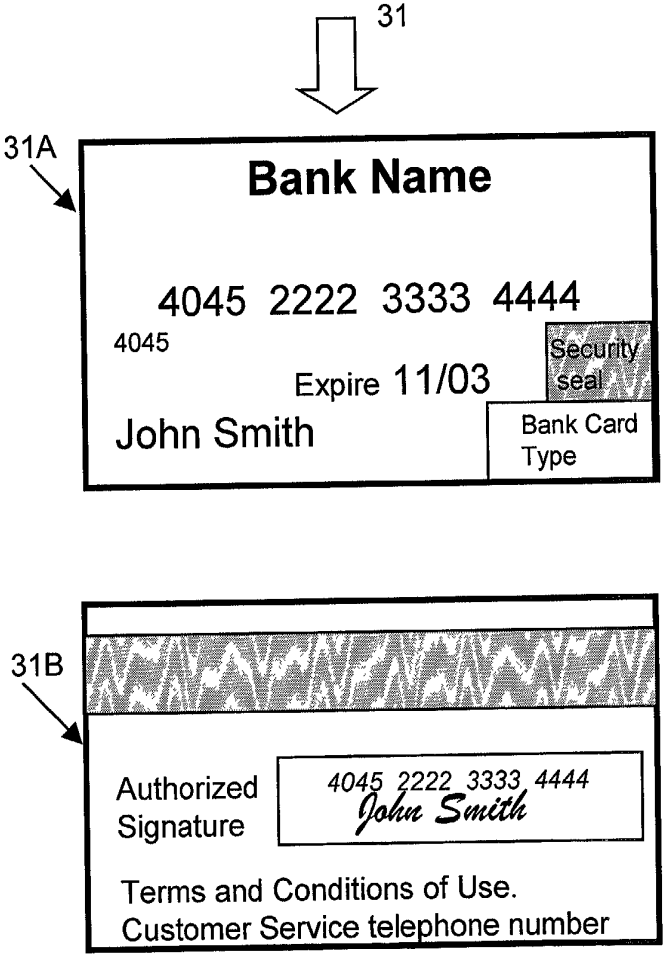

FIGURE 1C

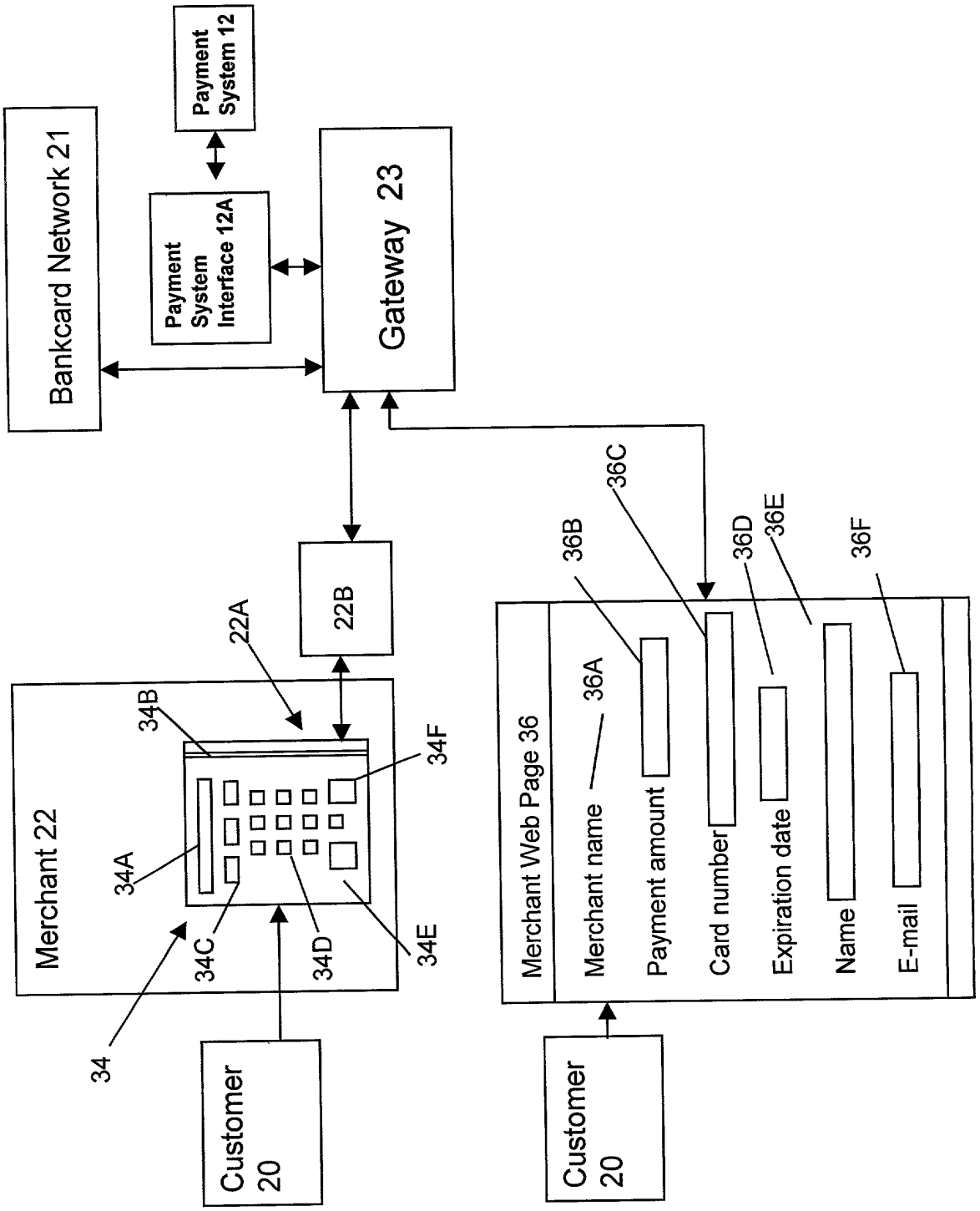
Bankcard Network 21
Payment System 12
Payment System Interface 12A
Gateway 23
22B
22A
Merchant 22
34B
34A
34C
34D
34E
34F
34
Customer 20
Merchant Web Page 36
36A
36B
36C
36D
36E
36F
Merchant name
Payment amount
Card number
Expiration date
Name
E-mail
Customer 20

FIGURE 1D

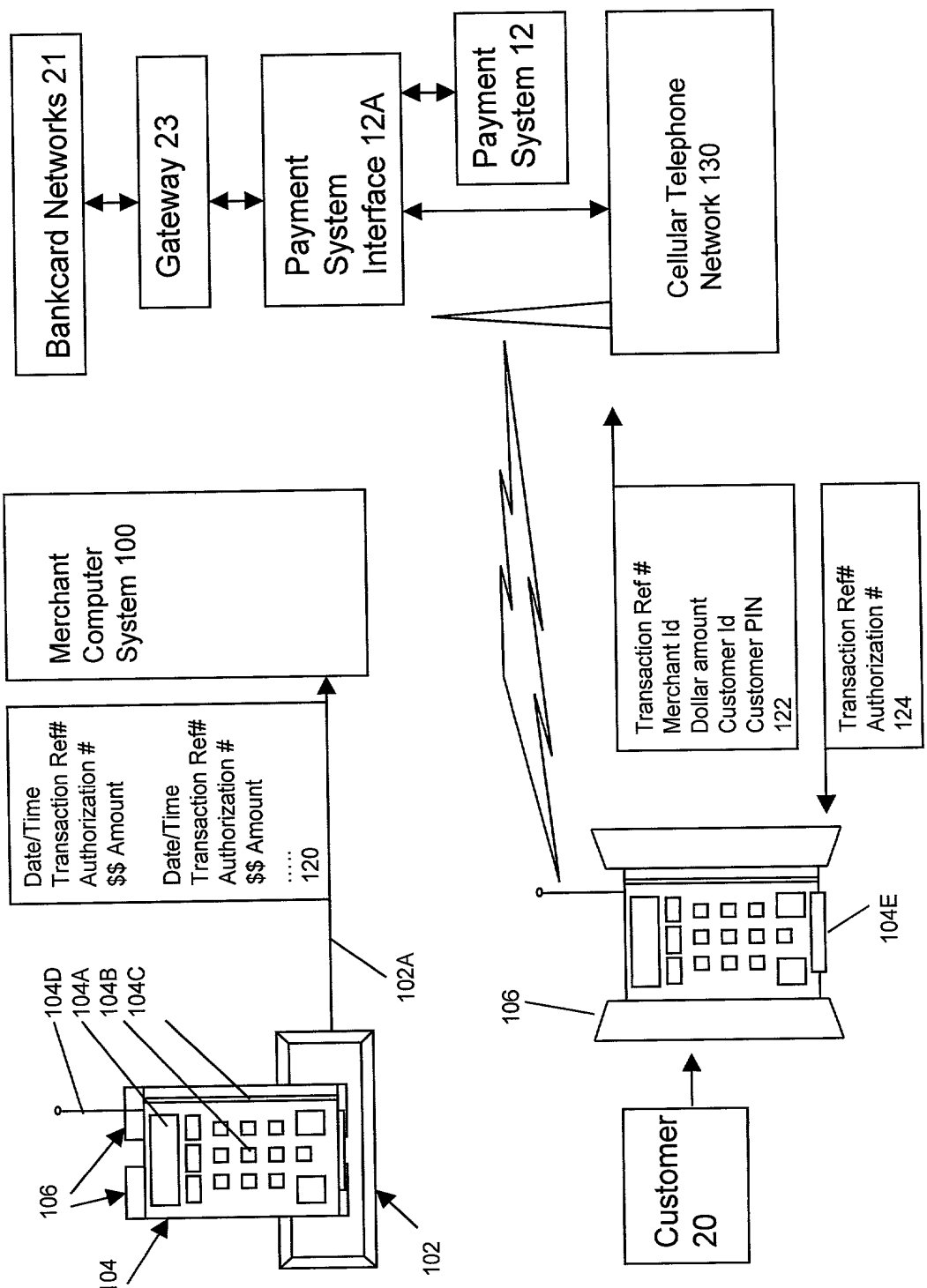
Bankcard Networks 21
Gateway 23
Payment System Interface 12A
Payment System 12
Cellular Telephone Network 130
Merchant Computer System 100
Date/Time
Transaction Ref#
Authorization #
$$ Amount
Date/Time
Transaction Ref#
Authorization #
$$ Amount
.....
120
102A
104D
104A
104B
104C
106
104
102
Transaction Ref #
Merchant Id
Dollar amount
Customer Id
Customer PIN
122
Transaction Ref#
Authorization #
124
106
104E
Customer
20

FIGURE 1E

Document ID: US 2002/0161694 A1

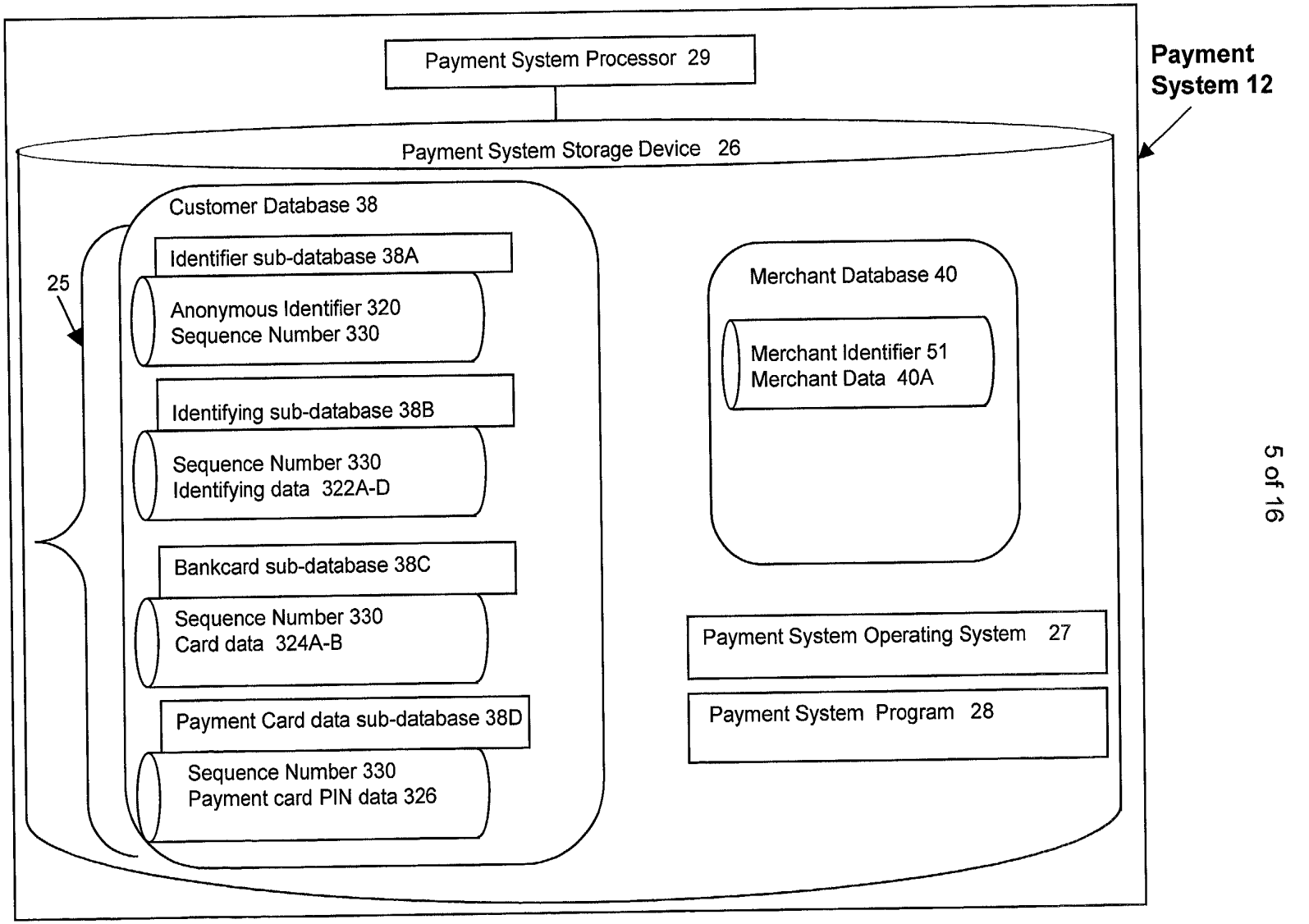

FIGURE 2

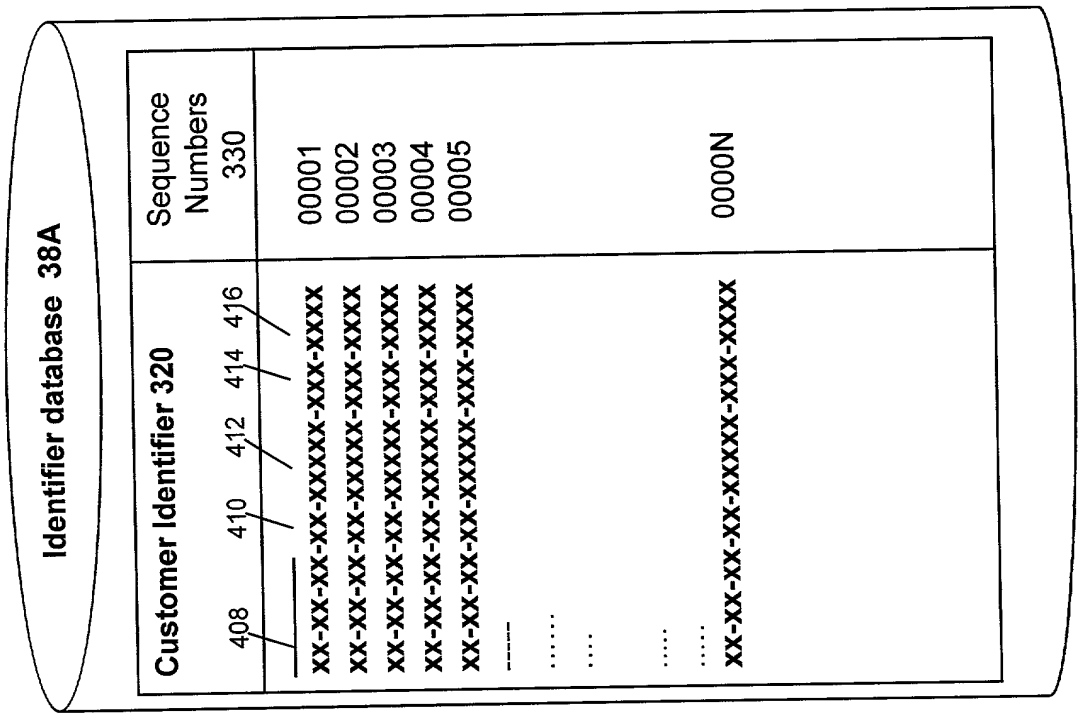
Identifier database 38A
Customer Identifier 320
408
410
412
414
416
Sequence Numbers 330
XX-XX-XX-XX-XXXXX-XXX-XXXX
XX-XX-XX-XX-XXXXX-XXX-XXXX
XX-XX-XX-XX-XXXXX-XXX-XXXX
XX-XX-XX-XX-XXXXX-XXX-XXXX
XX-XX-XX-XX-XXXXX-XXX-XXXX
00001
00002
00003
00004
00005
0000N

FIGURE 3A

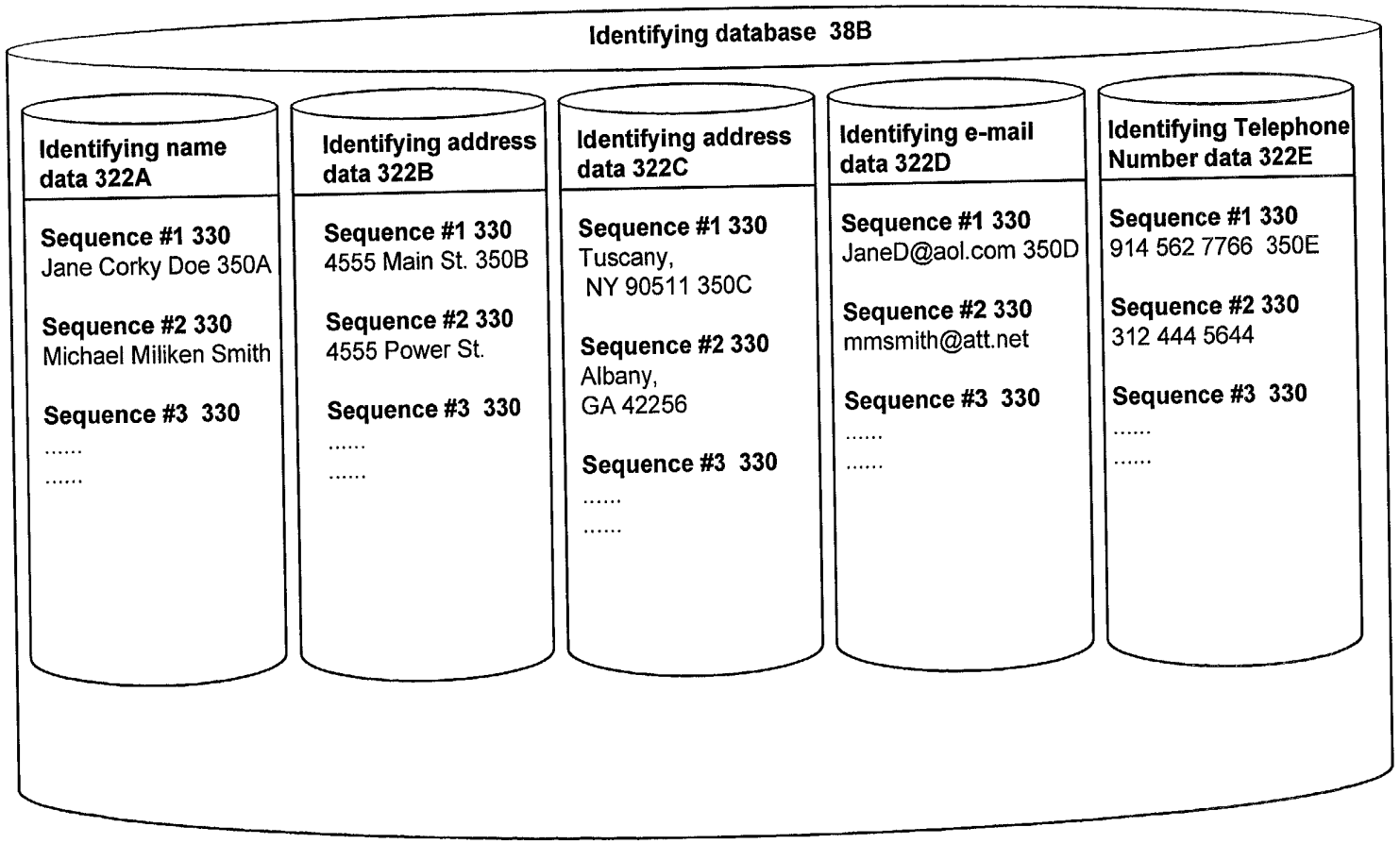
Identifying database 38B
Identifying name data 322A
Sequence #1 330
Jane Corky Doe 350A
Sequence #2 330
Michael Miliken Smith
Sequence #3 330
.....
.....
Identifying address data 322B
Sequence #1 330
4555 Main St. 350B
Sequence #2 330
4555 Power St.
Sequence #3 330
.....
.....
Identifying address data 322C
Sequence #1 330
Tuscany,
NY 90511 350C
Sequence #2 330
Albany,
GA 42256
Sequence #3 330
.....
.....
Identifying e-mail data 322D
Sequence #1 330
JaneD@aol.com 350D
Sequence #2 330
mmsmith@att.net
Sequence #3 330
.....
.....
Identifying Telephone Number data 322E
Sequence #1 330
914 562 7766 350E
Sequence #2 330
312 444 5644
Sequence #3 330
.....
.....

FIGURE 3B

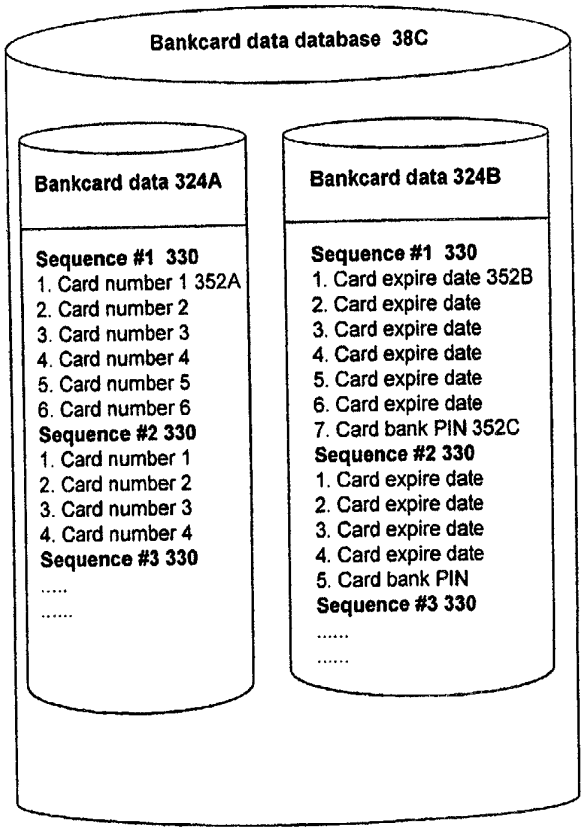

FIGURE 3C

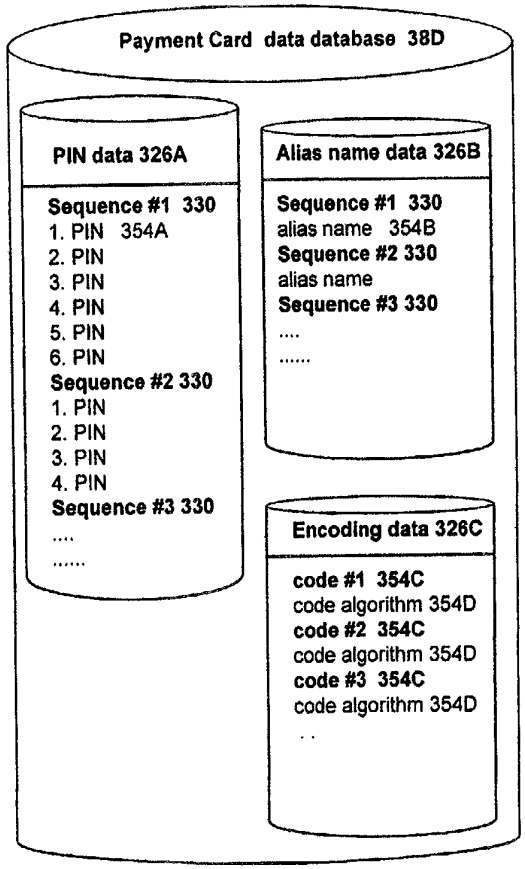

FIGURE 3D

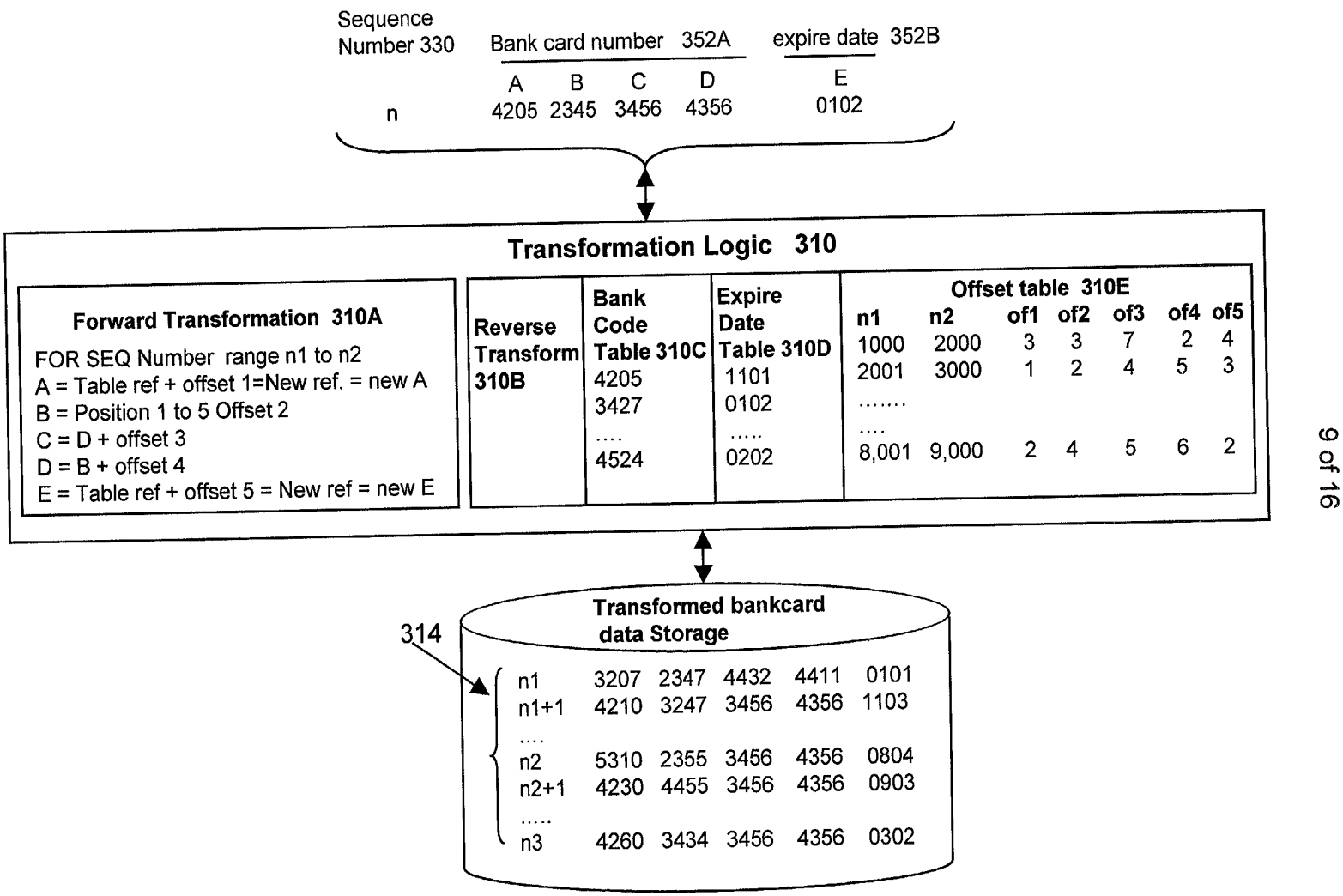
Sequence Number 330
Bank card number 352A
expire date 352B
A B C D
E
n
4205 2345 3456 4356
0102
Transformation Logic 310
Forward Transformation 310A
FOR SEQ Number range n1 to n2
A = Table ref + offset 1=New ref. = new A
B = Position 1 to 5 Offset 2
C = D + offset 3
D = B + offset 4
E = Table ref + offset 5 = New ref = new E
Reverse Transform 310B
Bank Code Table 310C
4205
3427
....
4524
Expire Date Table 310D
1101
0102
.....
0202
Offset table 310E
n1 n2 of1 of2 of3 of4 of5
1000 2000 3 3 7 2 4
2001 3000 1 2 4 5 3
.....
....
8,001 9,000 2 4 5 6 2
314
Transformed bankcard data Storage
n1 3207 2347 4432 4411 0101
n1+1 4210 3247 3456 4356 1103
....
n2 5310 2355 3456 4356 0804
n2+1 4230 4455 3456 4356 0903
.....
n3 4260 3434 3456 4356 0302

FIGURE 3E

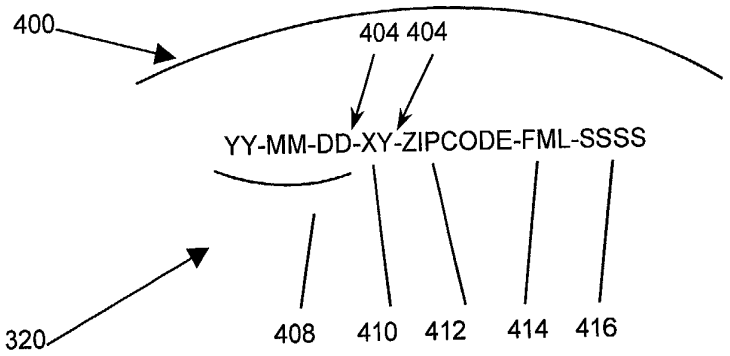

FIGURE 4A

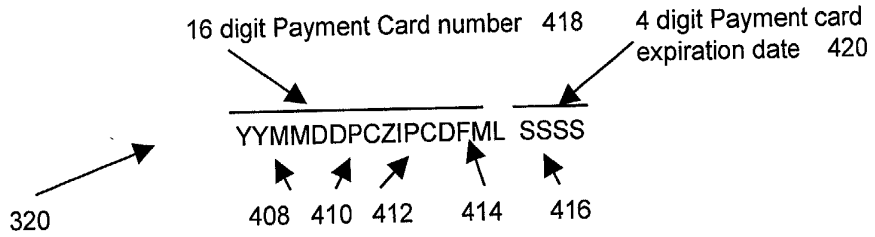

FIGURE 4B

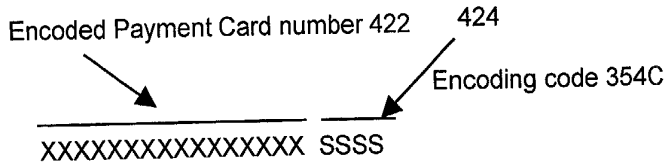

FIGURE 4C

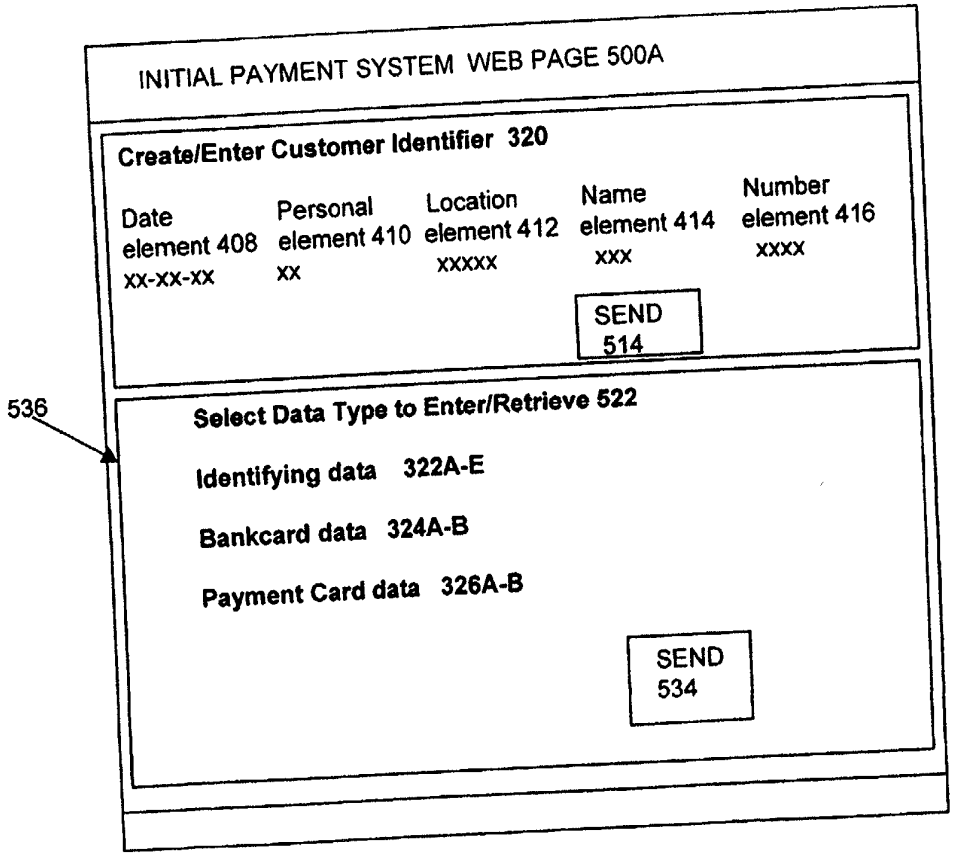
INITIAL PAYMENT SYSTEM WEB PAGE 500A
Create/Enter Customer Identifier 320
Date element 408
xx-xx-xx
Personal element 410
xx
Location element 412
xxxxx
Name element 414
xxx
Number element 416
xxxx
SEND 514
536
Select Data Type to Enter/Retrieve 522
Identifying data 322A-E
Bankcard data 324A-B
Payment Card data 326A-B
SEND 534

FIGURE 5A

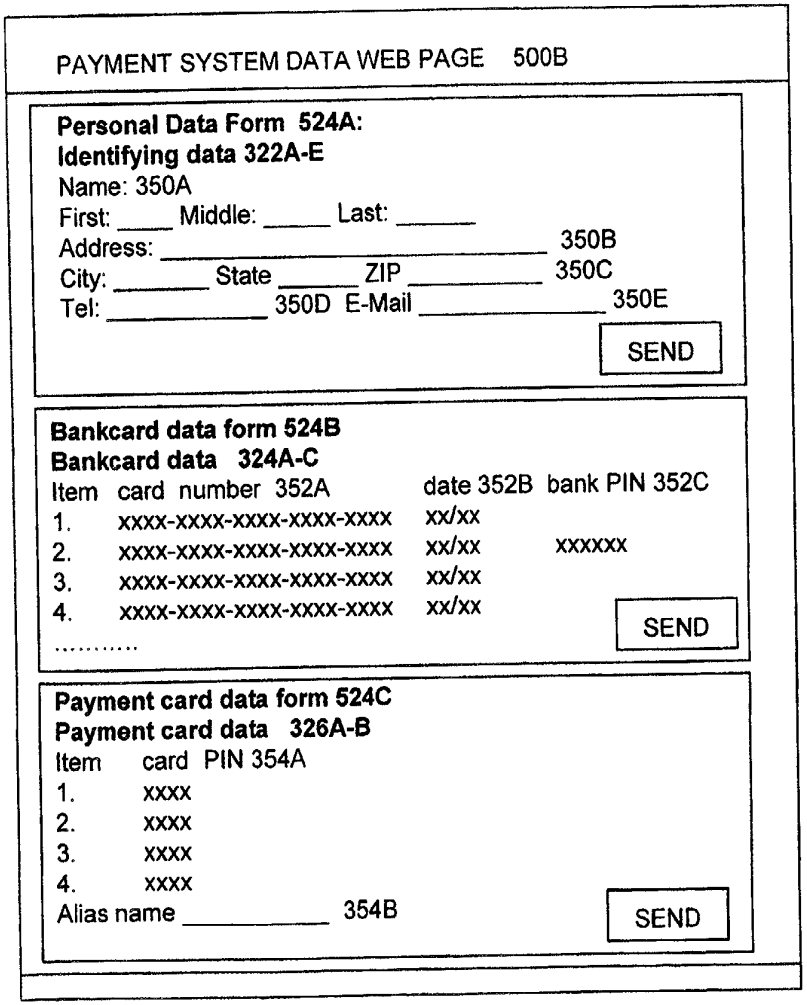
PAYMENT SYSTEM DATA WEB PAGE 500B
Personal Data Form 524A:
Identifying data 322A-E
Name: 350A
First: ____ Middle: _____ Last: _____
Address: _____ 350B
City: _____ State _____ ZIP _____ 350C
Tel: _____ 350D E-Mail _____ 350E
SEND
Bankcard data form 524B
Bankcard data 324A-C
Item card number 352A date 352B bank PIN 352C
1. xxxx-xxxx-xxxx-xxxx-xxxx xx/xx
2. xxxx-xxxx-xxxx-xxxx-xxxx xx/xx xxxxxx
3. xxxx-xxxx-xxxx-xxxx-xxxx xx/xx
4. xxxx-xxxx-xxxx-xxxx-xxxx xx/xx
.....
SEND
Payment card data form 524C
Payment card data 326A-B
Item card PIN 354A
1. xxxx
2. xxxx
3. xxxx
4. xxxx
Alias name _____ 354B
SEND

FIGURE 5B

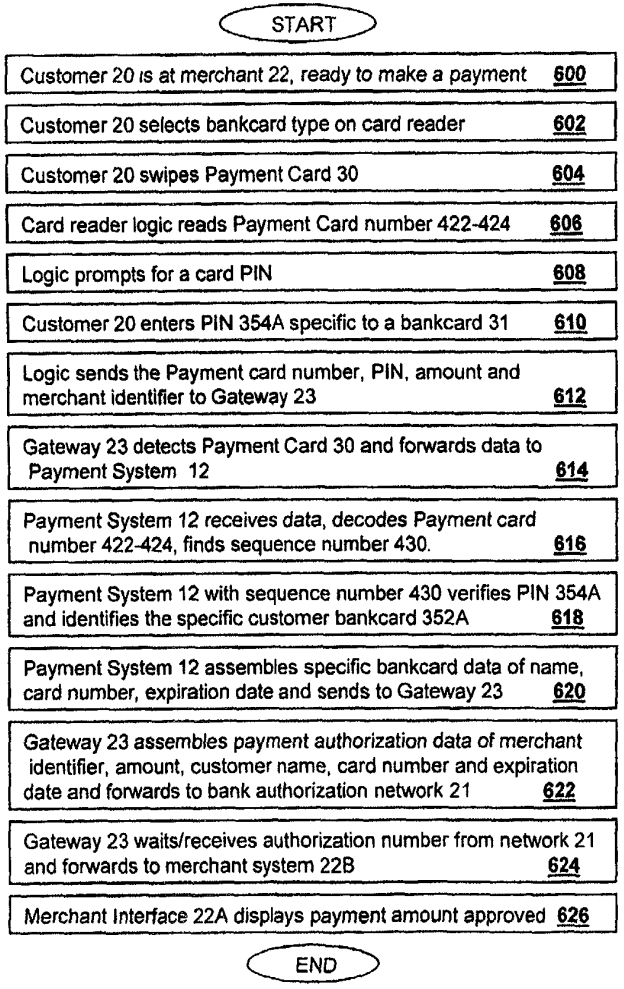
START
Customer 20 is at merchant 22, ready to make a payment 600
Customer 20 selects bankcard type on card reader 602
Customer 20 swipes Payment Card 30 604
Card reader logic reads Payment Card number 422-424 606
Logic prompts for a card PIN 608
Customer 20 enters PIN 354A specific to a bankcard 31 610
Logic sends the Payment card number, PIN, amount and merchant identifier to Gateway 23 612
Gateway 23 detects Payment Card 30 and forwards data to Payment System 12 614
Payment System 12 receives data, decodes Payment card number 422-424, finds sequence number 430. 616
Payment System 12 with sequence number 430 verifies PIN 354A and identifies the specific customer bankcard 352A 618
Payment System 12 assembles specific bankcard data of name, card number, expiration date and sends to Gateway 23 620
Gateway 23 assembles payment authorization data of merchant identifier, amount, customer name, card number and expiration date and forwards to bank authorization network 21 622
Gateway 23 waits/receives authorization number from network 21 and forwards to merchant system 22B 624
Merchant Interface 22A displays payment amount approved 626
END

FIGURE 6A

T09290 "ETOT6360

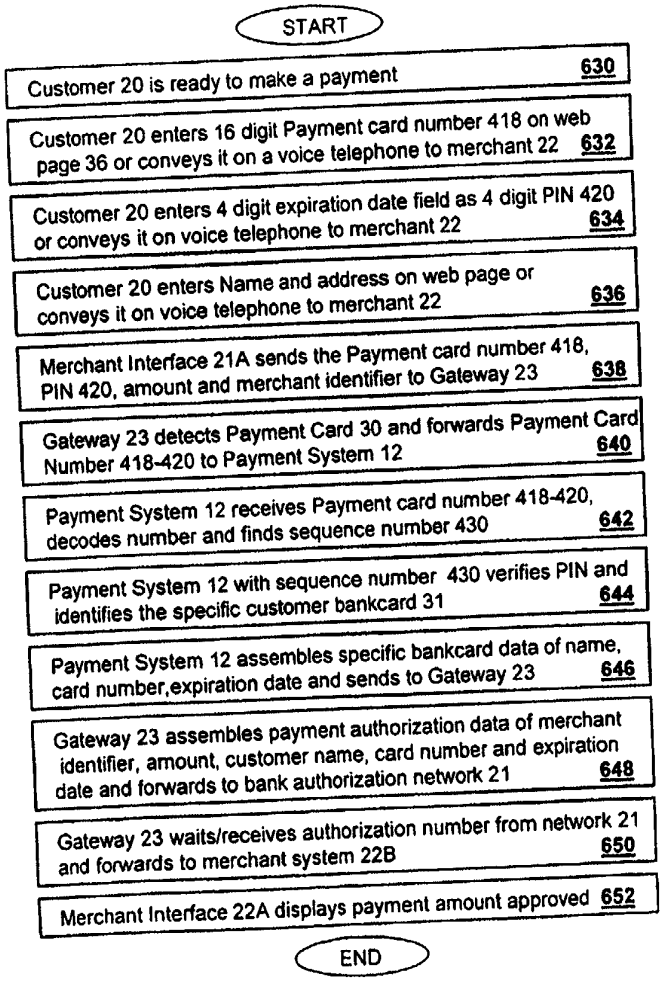

FIGURE 6B

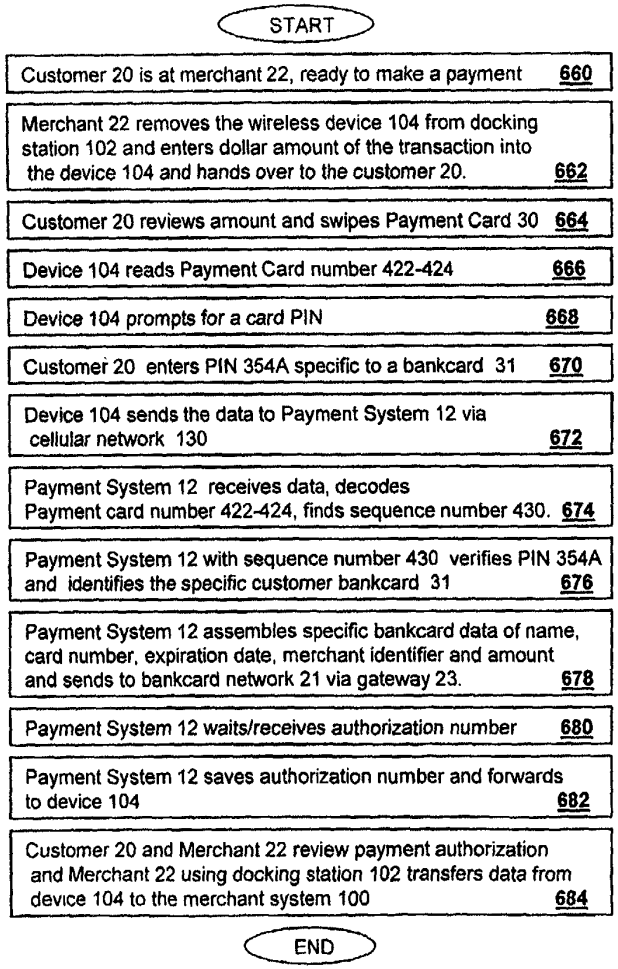
START
Customer 20 is at merchant 22, ready to make a payment 660
Merchant 22 removes the wireless device 104 from docking station 102 and enters dollar amount of the transaction into the device 104 and hands over to the customer 20. 662
Customer 20 reviews amount and swipes Payment Card 30 664
Device 104 reads Payment Card number 422-424 666
Device 104 prompts for a card PIN 668
Customer 20 enters PIN 354A specific to a bankcard 31 670
Device 104 sends the data to Payment System 12 via cellular network 130 672
Payment System 12 receives data, decodes Payment card number 422-424, finds sequence number 430. 674
Payment System 12 with sequence number 430 verifies PIN 354A and identifies the specific customer bankcard 31 676
Payment System 12 assembles specific bankcard data of name, card number, expiration date, merchant identifier and amount and sends to bankcard network 21 via gateway 23. 678
Payment System 12 waits/receives authorization number 680
Payment System 12 saves authorization number and forwards to device 104 682
Customer 20 and Merchant 22 review payment authorization and Merchant 22 using docking station 102 transfers data from device 104 to the merchant system 100 684
END

FIGURE 6C

TD92501 EL615869D

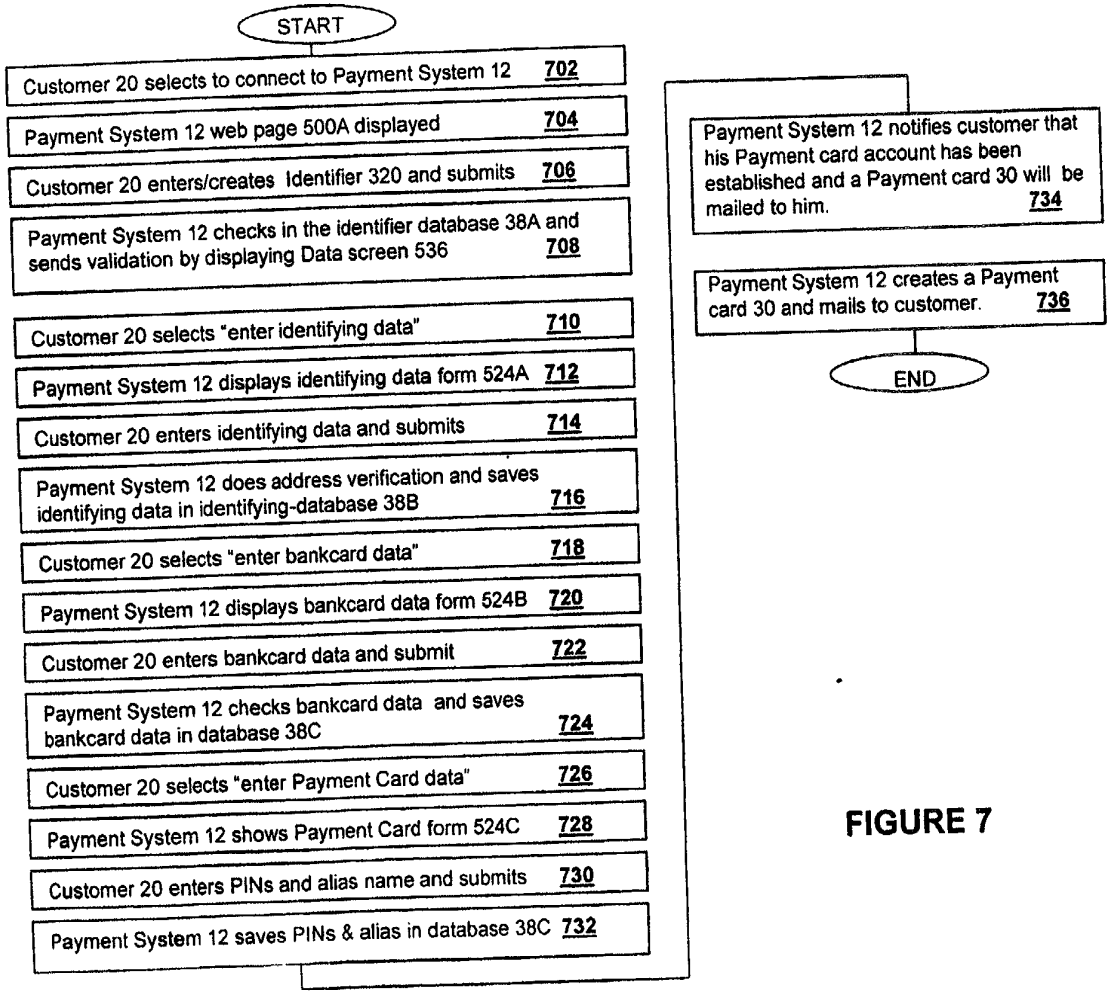

FIGURE 7